



Accommodating Employees with Environmental Sensitivities

A Guide for Building Managers

ASHRAE Standard 62-2001

defines "acceptable indoor air quality" as "air in which there are no known contaminants at harmful concentrations as determined by cognizant authorities and with which a substantial majority (80% or more) of the people exposed do not express dissatisfaction." [Emphasis added]

Toxins / Irritants / Sensitizers

- ◆ Volatile organic compounds (VOCs) including those found in scented products
- ◆ Bacteria, fungi, moulds, dusts and dust mites
- ◆ Building materials containing VOCs, including carpets
- ◆ Paints, waxes and cleaning products
- ◆ Pesticides, bactericides, herbicides and fungicides
- ◆ Fuels (e.g., propane, natural gas, gasoline, oil, etc.)
- ◆ Lead, radon, asbestos
- ◆ Pets, plants
- ◆ Electromagnetic radiation
- ◆ Foods
- ◆ Other substances not normally thought of as noxious

Environmental Sensitivities

- ◆ Many common things can cause adverse reactions
- ◆ Avoidance is the best treatment

Physical Signs and Symptoms ⁽¹⁾

- ◆ Recurrent headaches and migraines
- ◆ Irritated eyes and recurrent styes
- ◆ Puffy bags or dark circles under eyes
- ◆ Red ears or ear lobes
- ◆ Frequent ear, nose and throat infections, ringing ears
- ◆ Hoarse throat, laryngitis
- ◆ Recurrent earaches and sinusitis
- ◆ Stuffy, runny and/or itchy nose
- ◆ Coughing, wheezing, chest tightness, breathing difficulties
- ◆ Asthma
- ◆ Anaphylactic shock
- ◆ Urinary and reproductive problems

Physical Signs and Symptoms ⁽²⁾

- ◆ Mouth – metallic taste, dryness, cracking, excessive saliva, skin peeling or blistering
- ◆ Mouth breathing and throat clearing
- ◆ Stomach aches or diarrhea
- ◆ Eczema, hives and other skin rashes
- ◆ Light sensitivity and visual disturbances
- ◆ Numbness, stiffness, pain, weakness, swelling, "arthritic" symptoms of muscles, bones and joints
- ◆ Weakness and dizziness
- ◆ Loss of coordination, seizures, convulsions or tremors

Performance and Behavioural Signs and Symptoms

- ◆ Poor concentration
- ◆ Memory loss
- ◆ Difficulty problem-solving
- ◆ Inconsistent performance
- ◆ Mood and personality changes
- ◆ Recurrent absences
- ◆ Irritability
- ◆ Drowsiness, fatigue
- ◆ Aggression and exhaustion
- ◆ Depression and suicidal tendencies

Ventilation Systems

- ◆ Where necessary, upgrade and maintain ventilation system.
- ◆ Provide direct source exhaust to outside (not to return air) for all pollutant sources.
- ◆ Use clean steam rather than treated boiler water in steam humidifiers.

Openable Windows

- ◆ Reassign windowless offices for non-employee uses.
- ◆ Maximize the use of windows for natural light and fresh air in new and retrofit projects.
- ◆ All employees will benefit significantly from fresh air and natural light.

Floor Coverings

- ◆ Establish a no-carpet policy
- ◆ Use tolerated smooth, non-porous and preferably seamless flooring throughout all offices for replacement and new construction projects

A Few of the Chemicals Found in Carpets

- ◆ 4-PC
- ◆ Toluene
- ◆ Formaldehyde
- ◆ Other aldehydes

Maintenance and Renovations

- ◆ Schedule maintenance and renovation projects to minimize exposures.
- ◆ Conduct IAQ commissioning before occupancy.
- ◆ Avoid construction, renovation and maintenance problems.

How an Effective Self-identification Registry Would Function

An employee with environmental sensitivities has self-identified and requested personal notification of building maintenance and renovation activities.

She has been on vacation for several weeks and so has not received an e-mail notice that was sent to all employees informing them that solvent glues will be used to apply vinyl wall coverings throughout the building.

How ... (2)

On the day the employee is scheduled to return from vacation, remodelling will take place on the floor where her office is located.

The day before the employee returns to work, her supervisor (or a person designated by the supervisor) telephones her at home to advise her of the remodelling activities.

How ... (3)

The employee and her supervisor then agree as to the best solution in the circumstances.

- For example, the employee could work at home for a few days to avoid illness.
- Better still, more tolerable construction and remodelling materials including low-VOC paints, or cellulose wallpaper and low-VOC glues could have been used in the first place.

Cleaning and Maintenance Products

- ◆ Use unscented, tolerable, non-toxic cleaning and maintenance products

No-waxing Policy

Meeting Rooms Designed to Accommodate Employees with Environmental Sensitivities

- ◆ Fragrance-free and newspaper-free
- ◆ Carpet-free
- ◆ Openable windows
- ◆ Tolerable furnishings
- ◆ Portable HEPA air cleaner
- ◆ Educate all staff on conditions of use
- ◆ Have employees who are environmentally sensitive screen samples of building materials, furnishings and cleaning products as part of the design and accommodation process

Environmental Sensitivities – The Hidden Costs

- ◆ Employee attitude
- ◆ Concentration
- ◆ Health costs
- ◆ Job performance
- ◆ Absenteeism
- ◆ Vision
- ◆ Learning ability
- ◆ Total cost of production

By working together,
we can create healthier
environments for ALL, and
accommodate the needs of
persons who have
environmental sensitivities